This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1 (previously presented): A method for provisioning services to packets sourced from a number of client devices, each of the packets having at least a part of a layer 2 header replaced with a unique bit string that is independent of the contents of the received packets, the method comprising:

 a) determining whether or not the packet is entitled to access a particular service using at least a portion of the unique bit string; and

 b) if it is determined that the packet is entitled to access the particular service, then routing the packet.

Claim 2 (original): The method of claim 1 wherein at least a portion of the unique bit string represents one of a number of logical interfaces.

Claim 3 (previously presented): The method of claim 1 wherein at least a portion of the unique bit string corresponds to a virtual private network-organizational universal identifier.

Claim 4 (previously presented): The method of claim 1 wherein at least a portion of the unique bit string corresponds to a virtual private network-INDEX.

Claim 5 (previously presented): A method for providing various quality of service levels to packets sourced from a number of client devices, each of the packets having at

2

4   least a part of a layer 2 header replaced with a unique bit

5   string that is independent of the contents of the packets,

6   the method comprising:

7   a)   determining a service level to which the packet is

8   entitled using at least a portion of the unique bit

9   string; and

10   b)   forwarding the packet to a queue associated with

11   the service level determined.

1   Claim 6 (original):   The method of claim 5 wherein at least

2   a portion of the unique bit string represents one of a

3   number of logical interfaces.

1   Claim 7 (previously presented):   The method of claim 5

2   wherein at least a portion of the unique bit string

3   corresponds to a virtual private network-organizational

4   universal identifier.

1   Claim 8 (previously presented):   The method of claim 5

2   wherein at least a portion of the unique bit string

3   corresponds to a virtual private network-INDEX.

1   Claim 9 (previously presented):   A method for monitoring

2   packets sourced from a group of client devices defining a

3   subset of client devices, each of the packets having at

4   least a part of a layer 2 header replaced with a unique bit

5   string, the method comprising:

6   a)   determining whether or not the packet belongs to

7   the group of client devices using at least a portion

8   of at least one of the unique bit string; and

9   b)   if it is determined that the packet does belong to

10   the group of client devices, then

11   i) copying the packet to generate a duplicate

12   packet, and

13   ii) forwarding the duplicate packet to a

14   monitoring facility, wherein the monitoring

15   facility monitors at least one of (A) service

16   provided to a group of customers and (B)

17   security.

1 Claim 10 (original): The method of claim 9 wherein at

2 least a portion of the unique bit string represents one of

3 a number of logical interfaces.

1 Claim 11 (previously presented): The method of claim 9

2 wherein at least a portion of the unique bit string

3 corresponds to a virtual private network-organizational

4 universal identifier.

1 Claim 12 (previously presented): The method of claim 9

2 wherein at least a portion of the unique bit string

3 corresponds to a virtual private network-INDEX.

1 Claim 13 (previously presented): An apparatus for

2 provisioning services to packets sourced from a number of

3 client devices, each of the packets having at least a part

4 of a layer 2 header replaced with a unique bit string, the

5 apparatus comprising:

6   a) an access control list; and

7   b) an access controller, the access controller

8   including

9   i) means for determining whether or not the

10   packet is entitled to access a particular service

11   using

12   A)   contents of the access control list, and

13   B)   at least a portion of the unique bit

14   string, and

15   ii)   means for routing the packet if it is

16   determined that the packet is entitled to access

17   the particular service.

1   Claim 14 (previously presented): An apparatus for

2   providing various service levels to packets sourced from a

3   number of client devices, each of the packets having at

4   least a part of a layer 2 header replaced with a unique bit

5   string that is independent of contents of the packets, the

6   apparatus comprising:

7   a)   a plurality of queues, each of the plurality of

8   queues associated with a particular service level;

9   b)   a service level list; and

10   c)   a service level controller, the service level

11   controller including

12   i)   means for determining a service level to

13   which the packet is entitled using

14   A)   contents of the service level list,

15   and

16   B)   at least a portion of the unique

17   bit string, and

18   ii)   means for forwarding the packet to the one

19   of the plurality of queues associated with the

20   quality of service level determined.

1   Claim 15 (previously presented): An apparatus for

2   monitoring packets sourced from a group of client devices

3   defining a subset of client devices, each of the packets

5

4 having at least a part of a layer 2 header replaced with a

5 unique bit string, the apparatus comprising:

6   a)   a monitoring port for accepting packets of the

7   group of client devices to be monitored;

8   b)   means determining whether or not an accepted

9   packet belongs to the group of client devices using at

10   least a portion of the unique bit string; and

11   c)   means for

12   i)   copying the accepted packet to generate a

13   duplicate packet, and

14   ii)   forwarding the duplicate packet to the

15   monitoring port so that at least one of (A)

16   service to a group of customers and (B) security,

17   may be monitored, if it is determined that the

18   packet was sourced by a client device belonging

19   to the group of client devices.

1 Claim 16 (previously presented): The method of claim 1

2 wherein the layer 2 header is an Ethernet header, wherein

3 when the unique bit string replaces the at least a part of

4 the layer 2 header a modified header is generated, and

5 wherein a bit-size of the modified header is the same as

6 that of the Ethernet header.

1 Claim 17 (previously presented): The method of claim 1

2 wherein at least a portion of the unique bit string

3 represents a logical port identifier including a geographic

4 location identifier and a physical unit identifier.

1 Claim 18 (previously presented): The method of claim 5

2 wherein the layer 2 header is an Ethernet header, wherein

3 when the unique bit string replaces the at least a part of

4   the layer 2 header a modified header is generated, and

5   wherein a bit-size of the modified header is the same as

6   that of the Ethernet header.

1   Claim 19 (previously presented): The method of claim 5

2   wherein at least a portion of the unique bit string

3   represents a logical port identifier including a geographic

4   location identifier and a physical unit identifier.

1   Claim 20 (previously presented): The method of claim 9

2   wherein the unique bit string is independent of a layer 2

3   destination address.

1   Claim 21 (previously presented): The method of claim 9

2   wherein the layer 2 header is an Ethernet header, wherein

3   when the unique bit string replaces the at least a part of

4   the layer 2 header a modified header is generated, and

5   wherein a bit-size of the modified header is the same as

6   that of the Ethernet header.

1   Claim 22 (previously presented): The method of claim 9

2   wherein at least a portion of the unique bit string

3   represents a logical port identifier including a geographic

4   location identifier and a physical unit identifier.

1   Claim 23 (previously presented): The method of claim 13

2   wherein the unique bit string is independent of a layer 2

3   destination address.

1   Claim 24 (previously presented): The method of claim 13

2   wherein the layer 2 header is an Ethernet header, wherein

3   when the unique bit string replaces the at least a part of

4   the layer 2 header a modified header is generated, and

5   wherein a bit-size of the modified header is the same as

6   that of the Ethernet header.

1   Claim 25 (previously presented): The method of claim 13

2   wherein at least a portion of the unique bit string

3   represents a logical port identifier including a geographic

4   location identifier and a physical unit identifier.

1   Claim 26 (previously presented): The method of claim 14

2   wherein the layer 2 header is an Ethernet header, wherein

3   when the unique bit string replaces the at least a part of

4   the layer 2 header a modified header is generated, and

5   wherein a bit-size of the modified header is the same as

6   that of the Ethernet header.

1   Claim 27 (previously presented): The method of claim 14

2   wherein at least a portion of the unique bit string

3   represents a logical port identifier including a geographic

4   location identifier and a physical unit identifier.

1   Claim 28 (previously presented): The method of claim 15

2   wherein the unique bit string is independent of a layer 2

3   destination address.

1   Claim 29 (previously presented): The method of claim 15

2   wherein the layer 2 header is an Ethernet header, wherein

3   when the unique bit string replaces the at least a part of

4   the layer 2 header a modified header is generated, and

5   wherein a bit-size of the modified header is the same as

6   that of the Ethernet header.

1 Claim 30 (previously presented): The method of claim 15
2 wherein at least a portion of the unique bit string
3 represents a logical port identifier including a geographic
4 location identifier and a physical unit identifier.

1 Claim 31 (previously presented): The method of claim 1
2 wherein the step of determining whether or not the packet
3 is entitled to access a particular service using at least a
4 portion of the unique bit string is a separate
5 determination from determining whether or not the packet
6 can be forwarded.

1 Claim 32 (new): The method of claim 1 wherein the packet
2 is routed only if it is determined that the packet is
3 entitled to access the particular service.

1 Claim 33 (new): The method of claim 5 wherein the service
2 level is a quality of service level.

1 Claim 34 (new): The method of claim 5 wherein the service
2 level is a quality of service level represented by a
3 plurality of bits.